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**Microporous polyolefin membrane prepn. from soln. of polyolefin -  
comprises extruding soln. from die, cooling to form gel-like soln.  
removing solvent residue**

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Number of Countries: 007 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 3064334	A	19910319	JP 89201785	A	19890803	199117 B
US 5051183	A	19910924	US 90585461	A	19900920	199141 N
EP 476198	A	19920325	EP 90310331	A	19900920	199213 N
CA 2025520	A	19920318	CA 2025520	A	19900917	199222 N
EP 476198	B1	19940720	EP 90310331	A	19900920	199428 N
DE 69010906	E	19940825	DE 610906	A	19900920	199433 N
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JP 94104736	B2	19941221	JP 89201785	A	19890803	199504
EP 476198	B2	19971015	EP 90310331	A	19900920	199746 N
CA 2025520	C	20010529	CA 2025520	A	19900917	200134 N

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19900920; EP 90310331 A 19900920; CA 2025520 A 19900917; DE 610906 A  
19900920

Cited Patents: EP 110021; EP 202554; EP 288021; GB 2304640; US 4873034; GR  
2304640; EP 160551; GB 2051666; JP 52156776; JP 62269706; US 38395161; US  
4551296; WO 8602282

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 3064334	A		8		
EP 476198	A		12		

Designated States (Regional): DE FR GB NL

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DE 69010906 E B01D-071/26 Based on patent EP 476198

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Abstract (Basic): JP 3064334 A

Membrane is made from polyolefin compsn. having an average wt. mol.  
wt./average number mol. wt. ratio of 10-300 contg. 1 wt.% or more of  
ultra high mol. wt. polyolefin having an average wt. mol. w. of 7 x 10  
power 5 or higher, and having a thickness of 0.1-25 micron, voids vol.  
of 35-95%, average dia. of penetration voids of 0.001-0.2 micron and  
breaking strength of the membrane having a width of 15mm of 0.2 kg or  
higher.

Prepn. of microporous polyolefin membrane comprises preparing a  
soln. contg. 50-90 wt. % of a solvent and 50-10 wt. % of compsn. having  
an wt. average mol. wt./average number mol. wt. ratio of 10-300 contg.  
1 wt. % or more of ultra high mol. wt. polyolefin having average mol.

wt. of 7 x 10 power 5, extruding the soln. from a die, cooling to form a gel like compsn. orientating the gel like soln. at a temp. of m.pt. of polyolefin compsn. + 10 deg. C or lower and removing remaining solvent.

USE/ADVANTAGE - Membrane is prepd. from highly concn. soln. of polyolefin compsn.

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Abstract (Equivalent): EP 476198 B

An oriented microporous polyolefin membrane formed from a polyolefin comprising 1-90 weight % of an ultra-high molecular weight polyolefin having a weight-average molecular weight of  $1 \times 10$  to part of  $6 \times 10$  to part of 6 and a polyolefin having a weight-average molecular weight of  $1 \times 10$  to part of 4 to less than  $7 \times 10$  to part of 5, said polyolefin composition having a weight-average molecular weight/number average molecular weight ratio of 10-300, said microporous membrane having a thickness of 0.1-25 microns, a porosity of 35-95%, an average pore diameter of 0.001-0.2 microns and a breaking strength of 0.35 kg or more per 15 mm width.

Abstract (Equivalent): US 5051183 A

A microporous polyolefin membrane made of a polyolefin compsn. comprises 1-90 wt. % per 100 wt. % of the polyolefin compsn. of an ultra high mol. wt. polyolefin having in wt. average mol. wt. of  $7 \times 10$  power 5 or more and in polyolefin having a wt. average mol. wt. of  $1 \times 10$  power 4 to  $7 \times 10$  power 5, the olefin compsn. having a wt. average mol. wt. number average mol. wt. ratio of 10-300 the microporous membrane having a thickness of 0.1-25 micron, a porosity of 35-95% an average pore dia. of 0.001-0.02 micron and a breaking strength of 0.2kg or more per 15 mm width.

USE - Used in various application e.g. battery separators, electrolytic capacitor separators etc. (7pp)

Title Terms: MICROPOROUS; POLYOLEFIN; MEMBRANE; PREPARATION; SOLUTION; POLYOLEFIN; COMPRISE; EXTRUDE; SOLUTION; DIE; COOLING; FORM; GEL; SOLUTION; REMOVE; SOLVENT; RESIDUE

Derwent Class: A17; A32; A88

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Polymer Fragment Codes (PF):

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596 604 608 623 624 687 688

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